A Unit Plan Based Upon The MI Theory: A theoretical study with an application Inside The Classroom

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Abstract:

This research basically gives an introduction about the multiple intelligence theory and its implication into the classroom. It presents a unit plan based upon the MI theory followed by a report which explains the application of the plan by the researcher on the first class student of computer department in college of sciences/ University of Al-Mustansiryia and the teacher's and the students' reaction to it.

The research starts with a short introduction about the MI theory is a great theory that could help students to learn better in a relaxed learning situation. It is presented by Howard Gardener first when he published his book "Frames of Minds" in 1983 in which he describes how the brain has multiple intelligences not only one general intelligence as it was believed before .He classifies these intelligences into six or ten intelligences as will be explained later in this research.

The next section is a unit plan which is designed in accordance with the MI theory for teaching the simple present and the present perfect tense for the first class students in computer department of college of sciences. This plan consists of four activities each involves more than three intelligences which suppose to help most of the students in the class to learn better, each using their own intelligence in learning. In all the activities, the students are supposed to work in groups.

Activity number one is teaching the simple present tense by writing a description of pictures taken from the net using the simple present tense.

Activity number two is teaching the present perfect tense by using a game called: "tell us what has happened". The teacher or groups of students do something and then the teacher asks the other students to tell what has happened.

The third activity is teaching the simple present tense by using songs which are taken from the net and designed for teaching purposes . These songs are followed by a cloze sheet about the song to be filled by the students using the simple present tense.

The fourth activity is teaching the present perfect tense using the questionnaire. Students ask and answer using the present perfect tense as the teacher gives each group a specific theme to talk about.

presents the teacher's reaction to using the MI theory in designing the unit plan and teaching it to the students and the students' reaction to the unit plan with

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the type of assessments according to the MI theory which is followed by the researcher to assess the students.

1. The Multiple Intelligence Theory

Previously, people define intelligence with the ability to read, write or solve mathematical or word problems. The intelligent man is the one who can read, write and solve mathematical problems. Gardner, on the other hand, presents a more general definition of intelligence (Richardson 2006: 1). He defined it as " The ability to solve problems, or to create products, that are valued within one or more cultural settings" (Gardner, 1983: xxiv). With this definition, Gardner presented a new concept or theory which he called **the multiple intelligence theory** (for short MI theory).

Gardner (1999: 34) states that intelligence is much more than one general intelligence because the existence of high intelligence with no productivity does not equate to intelligence. He defines intelligence as " a biopsychological potential to process information that can be activated in a cultural setting to solve problems or create products that are of value in a culture". He tried to define intelligence in a much broader way and to achieve his goal, he established several criteria for defining intelligence (Ibid). He reviewed the literature using eight criteria or 'signs' of intelligence:

1. Potential isolation by brain damage.
2. The existence of idiots savants, prodigies and other exceptional individuals.
3. An identifiable core operation or set of operations.
4. A distinctive development history, along with a definable set of 'end-state' performances.
5. An evolutionary history and evolutionary plausibility.
6. Support from experimental psychological tasks.
7. Support from psychometric findings.
8. Susceptibility to encoding in a symbol system. (Gardner 1983: 62-69 & Smith 2002:4)

Candidates for the title 'an intelligence' as Gardener stated should satisfy a range of these criteria and must include, as a prerequisite, the ability to resolve 'genuine problems or difficulties' (Ibid: 60) within certain cultural settings. Making judgments about this was, however, 'reminiscent more of an artistic judgment than of a scientific assessment' (Ibid: 62).

In accordance with these criteria, Howard Gardner formulated a list of seven intelligences. His listing was provisional. The first two have been typically valued in schools; the next three are usually associated with the arts; and the final two are what Howard Gardner called 'personal intelligences' (Gardner 1999: 41-43).

These intelligences include:

- Linguistic intelligence which is concerned with language. It involves sensitivity to spoken and written language, the ability to learn languages, and the capacity to use language to accomplish certain goals. This intelligence includes the ability to effectively use language to express oneself rhetorically or poetically; and language as a means to remember information. Writers, poets, lawyers and speakers are among those that Howard Gardner sees as having high linguistic intelligence.
- Logical-mathematical intelligence consists of the capacity to analyze problems logically, carry out mathematical operations, and investigate issues scientifically. In Gardner's words, it entails the ability to detect patterns, reason deductively and think logically. This intelligence is most often associated with scientific and mathematical thinking.
- Musical intelligence involves skill in the performance, composition, and appreciation of musical patterns. It encompasses the capacity to recognize and compose musical pitches, tones, and rhythms. According to Gardner (1999: 42) musical intelligence runs in an almost structural parallel to linguistic intelligence.
- Bodily-kinesthetic intelligence entails the potential of using one's whole body or parts of the body to solve problems. It is the ability to use mental abilities to coordinate bodily movements. Gardner sees mental and physical activity as related.
- Spatial intelligence involves the potential to recognize and use the patterns of wide space and more confined areas.
- Interpersonal intelligence is concerned with the capacity to understand the intentions, motivations and desires of other people. It allows people to work effectively with others. Educators, salespeople, religious and political leaders and counselors all need a well-developed interpersonal intelligence.
- Intrapersonal intelligence entails the capacity to understand oneself, to appreciate one's feelings, fears and motivations. In Gardner's view (1999:42) it involves having an effective working model of ourselves, and to be able to use such information to regulate our lives (Smith 2002: 4-5).

These seven intelligences are clear and can be measured but they are not the only intelligences stated by Gardener. He stated more additional intelligence like spiritual intelligence, existential intelligence, moral intelligence and natural intelligence. However, there is lots of disagreement about these additional intelligences. While there is a good case to be made for spiritual intelligence, he stated that the capacity to grasp cosmic and transcendent truths depends on effective characteristics and we haven't any scientifically reliable way of investigating such traits. Moral intelligence is also rejected since morality involves value judgments and intelligence is by nature value-neutral. Existential intelligence - the capacity to ask profound questions about the meaning of life and death - is

considered as one of the cornerstones of art, religion, and philosophy and qualifies as an intelligence in its own right, says Gardner. However, since he has not been able to find the part of the brain dedicated to dealing with such questions, he is hesitant to add it to the list. Natural intelligence which is the ability to recognize and classify natural species and understand ecological relationships deserves to be recognized as a "bona fide intelligence, similar to the seven described in the original theory. (Gardner 1999:36)

Not surprisingly, theorists continually debate and interpret such additions to the model, and this is why one might see more than seven intelligences listed in recent interpretations of Gardner's model. But, as mentioned above, Naturalist Intelligence seems most popularly considered worthy of inclusion of the potential additional 'Gardner' intelligences and because of that it is considered as the eighth intelligence that is included in the unit plan of this paper (Chapman 2009:1). The multiple intelligence can be presented in this figure(1.1) as follows:



Figure 1.1 represents the eight intelligences presented by Howard Gardener

2. Implication of multiple intelligence theory in the classroom

"Of the seven different ways we learn, schools focus on only two. Add the other five 'intelligences', and you increase the chances of success" stated Bruce Campbell (1991: 2). Previously, only two of the intelligences (the verbal/linguistic and the logical/mathematical intelligences) have dominated the curriculum while the other five non-traditional intelligences: spatial, musical, kinesthetic, interpersonal and intrapersonal have been overlooked for years (Ibid). Currently, a number of authors have adapted Gardner's concepts specifically for classroom use. These writers have used MI as a basis for creating teacher-friendly techniques that

can be readily used with students of varied ages. Also, these works offer teachers diverse choices for implementation because their works differ greatly in sophistication, complexity, focus and price (Wilson 1998: 1) However, if the teacher can develop ways to teach and learn on the part of the learner by engaging all the seven intelligences, he will increase the possibilities for student success and create the opportunity to, in Margaret Mead's words, "weave a social fabric in which each diverse human gift will find a fitting place." (Ibid).

Some research paper show that teaching in small, caring, learning communities, which integrate passion and purpose while addressing a variety of teaching and learning modalities, is more likely to be embedded, retained and transferred to other learning environments and opportunities. When students become partners in creating their own educational plan through the expression of their interests and creativity in an atmosphere of fun, they will become motivated and engaged in deeper learning, and dramatically reducing off- task behaviors and concerns (Moffit 2003:1)

2.1 How can the Multiple Intelligences be implemented inside the classroom?

To implement Gardner's theory in an educational setting, The researcher deigned four activities for teaching the simple present and the present perfect tense to the first year class of computer department / college of sciences at the University of Al-Mustansiryia . Each activity must implement at least four of the intelligences in order to guarantee the participation of most of the students inside the class for better learning. The class is divided into groups in all the activities in order to train students to be responsible for their learning. The multiple intelligence theory encourages students to be self directed students. It encourages self-directed learning since it gives the student the responsibility to teach himself. It also encourages creative thinking. It helps the students to think and teach themselves by themselves. The teacher works as a guide not the center of the class. The activities provide seven different ways for the students to learn the subject matter. All students learn each day's lesson in seven ways. They build models, make collaborative decisions, create songs, solve deductive reasoning problems, read, write, and illustrate all in one school day. Some specific examples of such activities are presented and explained in details as follows:

3. Multiple-Intelligence Unit Plan

Name of Unit Plan: Simple present tense and the present perfect tense

Multiple Intelligences								Visual, Auditory and kinesthetic (VAK)			Activity #	ACTIVITY	Time needed
Verbal Linguistic	Visual Spatial	Bodily Kinesthetic/Tactile	Logical Mathematical	Intra-Personal	Inter-Personal	Musical	Natural	Visual	Auditory	Kinesthetic/tactile		Activity	
x	x	x			x	x		x	x		1	Working in groups: Writing a description of a picture	20-30 m
x	x	x			x	x		x	x	x	2	Game: : Tell us what has happened	20-30 m
x		x			x	x			x	x	3	Using song for teaching the simple present tense	10-15 m
x		x		x	x	x				x	4	A questionnaire: asking and answering using the present perfect	15-20 m

Introduction of the Unit Plan:

Unit Name	**The simple present and the present perfect tenses**
Learning Objective:	After practicing the simple present and the present perfect tense, the first year students of college of sciences who are divided into groups will write two short paragraphs the first one using simple present tense and the other using the present perfect tense in about 10 minutes for each paragraph and they will be assessed at 40 % according to a specific rubric.
Level:	First year/college students
Group size:	any
Environment:	Class with chairs and two white boards (it also could be done at home as a homework)
Materials:	Hand outs, pens or pencils
Prior Knowledge:	The students should have understood the two tenses by the use of the activities which stimulate students and help them learn not only the constructions of each tense but the uses of these tenses also. A review of these tenses will reinforce learning.
Time:	95 minutes total –the current design is for three 40 minute lectures .

Teacher's Notes

Unit Name:	**Simple present tense**
Activity #:	**1**
Activity Name:	Working in groups: Writing a description of a picture
Activity Level:	college students
Purpose:	Help the students exercise and use this simple present tense by describing pictures related to computer science from magazines or the internet
Group Size:	any
Environment:	Chairs are movable and the two activities are done in groups so students of each group are sitting facing each others
Materials:	Copies of students handouts, pens, pencils, copybooks or papers, the two white boards are needed, pictures from magazines or other books.
Time:	This activity could take 20-30 minutes

Process:

1. The teacher writes the simple present tense on the board with its construction and explanation by the use of the handout .
2. The students are divided into groups giving each group a picture to be described using the simple present tense.
3. Students will write down the description and read it aloud to be evalated by other groups whether it is right or wrong.

The description of each group is evaluated by the teacher according to a rubric out of 10 marks

The rubric is as follows:

1. a brilliant nice description with no or one to two grammatical mistakes mistakes: 10-8 marks
2. a good description with three to five grammatical mistakes: 7-5 marks.
3. a description with more than five grammatical mistakes: 4-1 marks.

<u>Some of the pictures used for the description</u>



Describe the difference between the two mice



Who is that man? Describe him



This man is a symbolism of future, describe the future man.



What does this picture mean to you? Describe it.

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1. These pictures are taken from ***Computer Sciences Images and Stock Photos. 17727 Computer Science*** *www.fotosearch.com/photos-images/computer-science.html*

Teacher's Notes

Unit Name: **present perfect tense**
Activity #: **2**
Activity Name: Game: : Tell us what has happened
Activity Level: college students
Purpose: Help the students exercise and use this tense in the right context by creating the real need of such tense in real situations

Group Size: any
Environment: Chairs are movable and the two activities are done in groups so students of each group are sitting facing each others
Materials: Copies of students' handouts, pens, pencils, copybooks or papers, the two white boards are needed.
Time: This activity could take 20-30 minutes
Process:

1. The teacher writes down the present perfect tense on the board with its construction and the explanation of its use with the use of the handout .
2. The game should start: the teacher suppose to do something like moving a chair, taking a book from someone or break something like a pencil and then ask the groups what the teacher has done?
3. Each group will write the answer and each answer is evaluated first by the other groups.
4. Each group is evaluated by the teacher according to a specific rubric out of 10 marks.
5. Other students could do something like sneezing or

laughing

6. Then the teacher asks the other groups to say and write down what that student or students have done?

The rubric is as follows:

4. a sentence with no mistakes or one mistake :10-8 marks
5. a sentence with two or three mistakes :7-5 marks
6. a sentence with more mistakes: 4-1 marks

Teacher's Notes

Unit Name: **the simple present tense**

Activity #: **3**

Activity Name: **Using songs which include the simple present tense**

Activity Level: college students

Purpose: By the use of a song the students will fill in the blanks the missing verbs using the simple present tense

Group Size: any

Environment: Also the class is divided into groups. The students of each group sitting facing each other

Materials: A recorder or a picture or a lab, their hand outs, papers and pen and the white board

Time: 10-15 minutes

Process:

1. first the students recall the simple present tense and its construction with some examples from their handout
2. the teacher will play the song to the students to listen to it twice to get familiar with it
3. The teacher distributes some cloze worksheets with the words of the song and the missing verbs to be filled.
4. Each group will take a copy to be filled.
5. the groups start to fill in the blanks with the missing verbs while listening to the song and try to recall the simple present verbs used in the song
6. The sheets are turned back to the teacher to be corrected out of 15 marks according to a rubric and the group who has all the correct verbs with their tenses will get the highest marks
7. Then ask each group to design a song that tells the everyday activity using the simple present tense as a homework

The rubric is as follows:

1. a sheet with no mistakes : 15 marks.
2. a sheet with two to three mistakes : 14-12 marks.
3. a sheet with four to six mistakes: 11-9 marks.
4. a sheet with five t seven mistakes: 8-6 marks
5. a sheet with more than eight mistakes : 5-1 marks.

The song used in teaching is as follows

I usually wake up at 6.30 and get up out of bed.
I have a shower and think of the day ahead.
Then I make my breakfast, it's always toast and tea.
When I leave home it's 7.30.

I catch the bus to work.
Sometimes I go by car.
I rarely ride my bike
Because it's just too far.

I get to work at 8.30
I have lunch from 1.00'till 2.00
I may leave work at 6.00 in the evening.
There's always a lot to do.

When I get home, I occasionally
Read the newspaper or I might watch TV.
At 7.15 I have my dinner.
I'm very hungry.

After dinner I walk the dog. We often go to the park.
I let it off its lead and it runs around in the dark.

When I get home, I watch more TV
Or maybe I listen to some music on the stereo.
Until I'm sleepy

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1. It is taken from LETS: Learning English Through Songs Cloze Worksheet:

I _______ _____ ___ at 6.30 and _____ ___ out of bed.

I ________ a shower and _______ of the day ahead.

Then I _______ my breakfast, ____ __________ toast and tea.

When I __________ home ______ 7.30.

I _________ the bus to work.

Sometimes I _____ by car.

I ______ ______ my bike

because_____ just too far.

I ______ to work at 8.30.

I _______ lunch from 1.00 'till 2.00.

I _____ ________ work at 6.00 in the evening.

________ _________ a lot to do.

When I ______ home, I __________

_______ the newspaper or I ______ _______ TV.

At 7.15 I _______ my dinner.

______ very hungry.

After dinner I _______ the dog. We _______ _____ to the park.

I _____ it off its lead and it ________ around in the dark.

When I _______ home, I _________ more TV

or _______ I ________ to some music on the stereo.

Until ______ sleepy, until ______ sleepy .....

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1 The song with the cloze sheet are taken from ***LETS: Learning English Through Songs***

Teacher's Notes

Unit Name: **The present perfect tense**
Activity #: **4**
Activity Name: A questionnaire: asking and answering using the present perfect tense
Activity Level: college students
Purpose: Help the students exercise and use the present perfect tense in an interesting way i.e. expressing their experiences of life

Group Size: any

Environment: Chairs are movable and the two activities are done in groups so students of each group are sitting facing each others

Materials: Pens, pencils, copybooks or papers, the two white boards are needed.

Time: This activity could take 15-20 minutes

Process:

1. The teacher writes several themes with some questions on each theme.
2. The groups will pick up one theme to write the answers to the questions on a piece of paper.
3. then the themes are switched to another group to be answered until all the groups answers the question of each theme
4. Each group will evaluate the work of another group. Then
5. The works of all the groups are evaluated by the teacher out of 10 marks according to a rubric and see which of the groups get the highest marks

1 The whole idea of using themes is taken from ***Verbs and tenses: Present perfect aspect - tips and activities*** *www.onestopenglish.com/section.asp?docid*

The rubric is as follows:

1. intelligent questions with no or one grammatical mistake: 10-8 marks.
2. good questions with two to three grammatical mistakes:7-5 marks.
3. questions with four to six grammatical mistakes: 4-1 marks.

Here are some examples of the Themes:

1. **Computer theme**

Have you ever designed a program?
Have you ever had a computer virus? And what have you done to it?
Have you ever used an Internet chat?
Have you ever made a friendship through chatting?

2. **School theme**

Have you ever cheated on an exam?
Have you ever had a crush on a teacher?
Have you ever copied homework from someone else?
Have you ever done something that made your teacher proud of you?
Have you ever helped others to cheat on an exam?

3. **Health theme**

Have you ever spent a night in hospital?
Have you ever broken a bone?
Have you ever had an operation?
Have you ever helped others to go to the hospital?
Have you ever witnessed an accident or an explosion and helped the injured to go to the hospital?

4. **Cinema theme**

Have you ever met a movie star?
Have you ever cried because of a movie?
Have you ever been inspired by a movie?
Have you ever imitate a movie action in real life?
Have you ever wished to be a movie star? Or have dreamt to act in a movie?

4. The Final Report – After Delivering the Plan

The report is presented in details as follows:

- The teacher's name is Afraa Abdul-Hussein
- Title of the Unit Plan was The simple present and the present perfect tense.
- The estimated date(s) of delivering The unit plan was at least 95 minutes total to be delivered completely. Accordingly the unit plan needed two lectures to be delivered. It could be increased according to the reaction of the students and their social circumstances.
- The institution in which the plan is delivered is College of sciences/ University of Al- Mustansiryia
- Age of learners was between 18-35 years old students (since the researcher is teaching the evening classes too which have some old students)
- The language proficiency level of learners was first year students of college of sciences.
- Gender of learners was a mixture of men and women
- Estimated number of students in the class is 30-60 students
- Setting(s) for the activities was as follows:
    1. the chairs are movable, so the students will sit facing each other as they are divided into groups,
    2. there are two white boards
    3. Pictures from magazines or the net.
    4. Some labs to play songs with it
    5. And their hand outs
- The course goal was to help the students to produce the English language with few or no grammatical mistakes.

- Students overall needs as language learners is to use the English language for their scientific reading and writing purposes with no grammatical mistakes.
- The activities are as follows:
  1. Working in groups, writing a description of a picture. The learning styles involved in learning are:
  2. A game: tell us what has happened: The learning styles involved in learning are:
  3. Using songs for teaching the simple present tense. The learning styles involved in learning are:
  4. A questionnaire: asking and answering using the present perfect.

  The learning styles involved in learning are as follows:

- The Behavioral Learning Objectives (ABCD format) that the researcher expects students to achieve by the end of the unit is:
  After practicing the simple present and the present perfect tense by the use of the activities, the first year students of computer dep. in college of sciences who are divided into groups will write two short paragraphs, the first one using simple present tense and the other using the present perfect tense in about 10 minutes for each paragraph and they will be assessed at 40 % according to a specific rubric.

- The recourses used in teaching are: The students' hand outs, the labs, some pictures from the books, magazines or taken from the net, two white boards, pens and papers.

- The articles that helped to develop this plan:
  A. The pictures are taken from Computer Sciences Images and Stock Photos. 17727 Computer Science www.fotosearch.com/photos-images/computer-science.html
  B. The songs are taken from LETS: Learning English Through Songs
  C. The whole idea of using themes is taken from Verbs and tenses: Present perfect aspect - tips and activities www.onestopenglish.com/section.asp?docid
  D. Smith, Mark K. (2002, 2008) 'Howard Gardner and multiple intelligences', the encyclopedia of informal education, http://www.infed.org/thinkers/gardner.htm.
  E. Moffit, Deborah, Success by Design, May 2003 New Horizons for Learning http://www.newhorizons.org

- **Designing and Teaching the unit plan**

Howard Gardner's theory of multiple intelligences has not been readily accepted within academic psychology. However, it has met with a strongly positive response from many educators. It has been embraced by a range of educational theorists and, significantly, applied by teachers and policymakers to the problems of schooling. A number of schools in North America have looked to structure curricula according to the intelligences, and to design classrooms and even whole schools to reflect the understandings that Howard Gardner develops. The theory can also be found in use within pre-school, higher, vocational and adult education initiatives (Deppisch 2009: 3). It has helped a significant number of educators to question their work and to encourage them to look beyond the narrow confines of the dominant discourses of skilling, curriculum, and testing. For example, Mindy Kornhaber and her colleagues at the Project SUMIT (Schools Using Multiple Intelligences Theory) have examined the performance of a number of schools and concluded that there have been significant gains in respect of parental participation, and discipline (with the schools themselves attributing this to MI theory). To the extent that Howard Gardner's multiple intelligences theory has helped educators to reflect on their practice, and given them a basis to broaden their focus and to attend to what might assist people to live their lives well, then it has to be judged a useful addition (Ibid).

After designing the current plan according to MI theory, it becomes easy to design more unit plans for the whole subject that could be taught to the students. It's interesting for students and the teacher. Honestly speaking, this theory gives lots of new and very useful knowledge that is really needed in teaching in Iraq. The researcher has been introduced to new marvelous theories and ideas such as learning styles theory and self-directed learning etc. That helps to develop the teaching process and change the way of thinking about the whole process of teaching and learning in Iraq. This theory shows how different the students' nature of learning is, this fact helped to understand the students and it helped them to learn better.

The most important thing is to diverse the activities to suit all the students' intelligences. Each time the teacher should be creative to change the activities to suit all the students and never let the students get bored with the repetition of the same activities over and over again and If the researcher faced some defects in the unit plan during teaching, modification should be made to suit most of the students. The students are changing every year, so, the activities should cope with that change of the students and the whole learning process. Also, the theories are changing every day so the process of teaching should cope with that change of the theories.

The limitation of such kinds of methods lies in training the students to work in groups helping each other and direct themselves. The problem is how to train the students to depend on themselves in learning especially that they previously depended on the teacher only to do the teaching for them,. They need some training in this part and when they see its benefit, they will get used to it and some will be creative and interested in these kinds of activities.

This type of theories is recommended strongly by the researcher to the other teachers to use new methods of teaching and read about the MI theory to raise their students' level of learning and give the teachers themselves as well as the students a new way of thinking in what we are reading and writing. This theory changes the way of thinking about the students. Now, the researcher realized that some of the students may fail because of the way of teaching not because they are not intelligent. This theory helped to think again about the whole process of teaching and learning.

- **The students reaction to the activities**:

The students were surprised, scared and at the same time eager to know what they are supposed to do. They reacted in this way because the activities are very new to them so they were surprised. They were scared because they are thinking of marks all the time so they are scared of failing in this new activity which will reduce their marks but ,at the same time, they were eager to know what they are supposed to do because they are getting tired of sitting behind the chairs and listening only. So they are eager to participate in the class and taking part in the process of teaching each other and learning from each other at the same time.

This method of teaching helped students to be responsible for their work, they are supposed to self- direct themselves and work in groups helping each other, advising each other. This could be achieved with the teacher guide and with some training, they will get used to this kind of activities. They should also be able to have knowledge about the computer use and this can be achieved since they are students of computer department and some of them have great knowledge of computers. Those students will be asked by the teacher to help other students in using the computer.

- **The assessment Followed**

The two most widely used standardized tests of intelligence are the Wechsler scales and the Stanford-Binet. Both instruments are psychometrically sound, but Gardner believes that these tests measure only linguistic and logical/mathematical intelligences, with a narrow focus within content in those domains. According to Gardner, the current psychometric approach for measuring intelligence is not

sufficient. In his view, assessment must cast a wider net to measure human cognitive abilities more accurately. Gardner (1993:175) proposes several improvements for the development of intelligence measures. Before enumerating those improvements, it is important to understand how Gardner defines assessment. In his view, the purpose of assessment should be to obtain information about the skills and potentials of individuals, and provide useful feedback to the individuals and the community at large. Furthermore, Gardner (1993:176) draws a distinction between testing and assessment. Assessment elicits information about an individual's abilities in the context of actual performance rather than by proxy using formal instruments in a de-contextualized setting.

Gardner argues for making assessment a natural part of the learning environment. Assessment is then built into the learning situation much like the constant assessment of skills that occurs in apprenticeship or the self-assessment that occurs in experts who have internalized a standard of performance based on the earlier guidance of teachers. The ecological validity of assessment is also at issue according to Gardner (Ibid). Predictive validity of traditional intelligence tests may be psychometrically sound, but its usefulness beyond predicting school performance is questionable. Therefore, prediction could be improved if assessments are more closely approximated real working conditions. Instruments for measuring intelligence should also be "intelligence-fair" (Ibid). Consequently, we need to reduce the bias toward measuring intelligence through logical/mathematical and linguistic abilities and move toward looking more directly at a specific intelligence in operation (e.g., assessing for spatial intelligence by having an individual navigate his or her way around unfamiliar territory). Gardner acknowledges that this approach to assessment may be difficult to implement.

Gardner (1993:178) emphasizes two additional points about assessment that are critical. The first is that the assessment of intelligence should encompass multiple measures. Relying on a single IQ score from a WISC-III (Wechsler Intelligence Scale for Children) without substantiating the findings through other data produces insufficient information for those who provide interventions. Secondly, all assessments and resulting interventions must be sensitive to individual differences and developmental levels. Finally, Gardner is in favor of assessment for the primary purpose of helping students rather than classifying or ranking them.

Accordingly, the assessment in this research is done within the activities. The student is the center in this method. Therefore, students are assessing themselves and each other within groups. The teacher also assesses his students through using rubrics as described above, through his reaction to students' questions within the activities. The teacher is such method is a guide and observer much more than being the only instructor inside the class. This ongoing assessment is done in relaxed conditions as Gardner described above

and the students, in these situations, seek learning that will be applied in social context as well as the classroom.

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خطة درس مبنية على نظرية الذكاء المتعدد
دراسة نظرية وتطبيقية داخل الصف

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مستخلص البحث:

يعطي هذا البحث بصورة رئيسية مقدمة عن نظرية الذكاء المتعدد وتطبيقها داخل الصف. و يقدم هذا البحث أيضا خطة تدريس مبنية على أساس هذه النظرية متبوعا بتقرير يشرح التطبيق الفعلي لهذه الخطة على طلبة المرحلة الأولى في قسم الحاسبات في كلية العلوم في الجامعة المستنصرية وردّ فعلهم عليها.

يبدأ البحث بمقدمة قصيرة عن نظرية الذكاء المتعدد والتي كانت حجر الأساس لمساعدة الطلبة في التعلم بشكل أفضل و أجواء خاليه من التوتر للطلبة. أوجد هاورد كاردنر نظرية الذكاء المتعدد و نشرها في كتابه " اطر العقل" في ١٩٨٣ و وصف كاردنر في كتابه هذا كيف يكون للعقل ذكاء متعدد و ليس موحداً كما كان يعتقد من قبل. و قد صنف كاردنر هذا الذكاء المتعدد إلى ستة أو عشرة أصناف من الذكاء لدى الشخص كما سيوضح البحث لاحقا.

الجزء الثاني للبحث يشرح خطة لتعليم الأزمنة الانكليزية مصممه على وفق هذه النظرية لتطبيقها على طلبة المرحلة الأولى في كلية العلوم في قسم الحاسبات في الجامعة المستنصرية. تتكون هذه الخطة من أربع فعاليات كل منها تتضمن ثلاثة أصناف من الذكاء أو أكثر والتي من المفترض أن تساعد معظم الطلبة للتعلم بصورة أحسن وأسرع. يعمل الطلبة في كل الفعاليات على شكل مجاميع من الطلبة كل مجموعة تكلف بعمل ما و هكذا.

تعلم الفعالية الأولى زمن المضارع البسيط عن طريق كتابة وصف صورة معينه باستخدام زمن المضارع البسيط. هذه الصورة مأخوذة من الانترنت أو أي مجلة أخرى لها علاقة بالحاسبات. على كل مجموعة أن تقوم بهذا العمل لوحدها.

الفعالية الثانية تعلم المضارع التام باستخدام لعبة تدعى: "اخبرنا ماذا حصل". يفعل المعلم أو أي احد من الطلبة شيء ما و بعدها يسأل المعلم الطلبة عما حصل باستخدام المضارع التام لتكوين الجمل.

تعلم الفعالية الثالثة زمن المضارع البسيط مره أخرى بسماع الأغاني الخاصة بتعليم الطلبة و المأخوذة من الانترنت. و تكون هذه الأغاني متبوعة بورقة اختبار فيها فراغات لكلمات الأغنية من المفترض إن تملأ باستعمل زمن المضارع البسيط.

و تعلم الفعالية الرابعة زمن المضارع التام باستخدام الاستبيان. يسأل الطلبة بعضهم بعضا و يجيبوا باستخدام المضارع التام حالما يعطي المعلم كل مجموعة موضوعاً معيناً للتكلم عنه.

و أخيرا يعطي البحث تقريرا نهائيا يقدم المعلم فيه رد فعل المعلم نفسه حيال تصميم خطة الدرس حسب هذه النظرية ورداً فعل الطلبة حول الدرس باستخدام هذه النشاطات مع تقديم نوع التقييم المستخدم من قبل المعلم حسب هذه الطريقة.